



Queensland
Government

Department of
**Agriculture, Fisheries
and Forestry**

Reference: CTS No. 30565/13

23 JAN 2014

Mr Stephen Palethorpe
Committee Secretary
Senate Rural and Regional Affairs and Transport References Committee
PO Box 6100
Parliament House
CANBERRA ACT 2600

Dear Mr Palethorpe

I refer to an email of 13 December 2013 concerning the Senate Rural and Regional Affairs and Transport References Committee's Inquiry into the Implications of the use of Fenthion on Australia's horticultural industry.

I am pleased to provide you with the attached submission by the Queensland Government's Department of Agriculture, Fisheries and Forestry, for consideration by the Committee.

If the Committee requires any further information, please contact Mr Mark Panitz, General Manager, Plant Biosecurity and Product Integrity, Biosecurity Queensland,

Yours sincerely

Jack Noye
Director-General
Department of Agriculture, Fisheries and Forestry

Att (1)

INQUIRY INTO THE IMPLICATIONS OF THE USE OF FENTHION ON AUSTRALIA'S HORTICULTURAL INDUSTRY; SENATE RURAL AND REGIONAL AFFAIRS AND TRANSPORT REFERENCES COMMITTEE

Terms of reference

The implications of the restriction on the use of Fenthion on Australia's horticultural industry, including:

- a. the roles and responsibilities of relevant departments and agencies of Commonwealth, state and territory governments in relation to the regulation of pesticides and veterinary chemicals;
- b. the short- and long-term impact of the decision on stakeholders;
- c. the effectiveness and sustainability of chemicals other than Fenthion to manage fruit fly;
- d. transition arrangements following the restriction on the use of Fenthion, including Area Wide Management; and
- e. any related matters.

Submission by the Department of Agriculture, Fisheries and Forestry (DAFF), Queensland Government

Background

The supply and use of agricultural chemicals and veterinary medicines (agvet chemicals) are currently regulated under the National Registration Scheme for Agricultural and Veterinary Chemicals (NRS). The NRS operates as a partnership arrangement through complementary Commonwealth, State and Territory legislation established under an Intergovernmental Agreement (IGA) which was originally signed by Agriculture/Primary Industries ministers for each jurisdiction in 1995.

The IGA underpinning the scheme was amended and re-signed in 2013. The new IGA provides for continuation of the existing arrangements of the 1995 IGA, enhances governance arrangements and will formalise state and territory involvement (including the Australian Capital Territory) in the Australian Pesticides and Veterinary Medicines Authority (APVMA) strategic policy development, dispute resolution processes and review processes for the harmonised regulations. The IGA implements agreement for all jurisdictions to take steps as are appropriate to provide consistent regulation on licensing and competency requirements for chemical users, monitoring of chemical residues, controls on access to chemicals and record keeping requirements for chemical sale and use.

Agvet Chemical Regulation Committee (ACRC) is an advisory committee reporting directly to the Primary Industries Standing Committee (PISC). The major role for ACRC is to assist PISC in developing strategic policy for the national agvet chemical regulatory system.

The NRS operates through the following legislative instruments

- the Commonwealth *Agricultural and Veterinary Chemicals (Administration) Act 1992*, which provided for establishment of the Australian Pesticides and Veterinary Medicines Authority (APVMA)
- the Commonwealth *Agricultural and Veterinary Chemicals Code Act 1994* includes the Agricultural and Veterinary Chemicals Code (Agvet Code) as a Schedule to the Act
- the *Agricultural and Veterinary Chemicals (Queensland) Act 1994* adopts the Agvet Code as the law of Queensland and confers the functions and powers in relation to registration and approval of agvet chemicals on the APVMA
- the Queensland *Chemical Usage (Agricultural and Veterinary) Control Act 1988* controls the use of agricultural and veterinary chemicals and substances that have chemical residues in or on them. The Act requires that chemical users must follow the product label instructions but has some flexibility regarding application rates and target pests. It prohibits the use of unregistered chemical products except where the person using them has an APVMA permit.

Review process

In considering the impact of fenthion on agricultural producers, it is important that there is an appreciation of the factors that have led to the regulatory decisions of the APVMA and the ability of industries to prepare for those decisions.

In the early 1990s, the Codex Committee on Pesticide Residues (CCPR) expressed reservations about some Codex MRLs (maximum residue limits) that had been proposed for acutely toxic pesticides. There were also some noted international incidents where acutely toxic pesticides had caused health effects in humans. By 1995, the international community of pesticide residue specialists had started to appreciate that chronic dietary risk assessment may not be adequate for all pesticides and that dietary risk methodology was required to cater for acute dietary risk issues.

In 1995, the APVMA was formed in order to produce nationally consistent registration decisions and underlying risk assessments. One of the key promises in forming the APVMA was that old chemistries that were grandfathered into the new registration system would be reassessed.

Given the international concerns relating to the acute toxicity of organophosphorous pesticides, it was appropriate that compounds such as fenthion and dimethoate were some of the highest priority chemistries for review. This was particularly important because the previous registration decisions only considered chronic toxicity in human dietary risk assessments.

Fenthion and dimethoate, and to a lesser extent a number of other organophosphorous type compounds, had been shown to be very effective for control of fruit flies. The approved uses of dimethoate and fenthion supported both domestic and international quarantine protocols for market access for crops susceptible to fruit flies. Dimethoate and fenthion also provided easy, economically manageable production of fruit fly host commodities.

Dimethoate and fenthion also had uses developed for a number of other pests.

By the late 1990s, pesticide residue specialists could perceive the likely outcomes of dietary risk assessment reviews of dimethoate and fenthion and their impact on the market access arrangements and the general economic control of fruit flies.

However, despite communication with peak industry bodies, the message that industries would have to find other solutions to fruit fly control for commodities with edible peels did not gain traction with the potentially affected industries. There was an expectation by many industries that the Governments of Australia would need to invest in the solutions on behalf of industries. However, the general view of the Governments of Australia was that the industries themselves needed to invest in solutions. The issue was significantly compounded by the lack of levy structures and membership of appropriate peak bodies across horticulture.

In the 1990s, the then Queensland Department of Primary Industries and Fisheries (DPI&F) co-invested with industries to develop non-chemical solutions to disinfest for fruit flies. Unfortunately, some of the alternative solutions were not practical for many industries.

It was not until around 2010 that most industries accepted ownership of the problem and started to collect residue and efficacy data to support their current uses of fenthion and dimethoate for uses on commodities with inedible peel and potential new chemicals for those where it was unlikely that the current uses of fenthion or dimethoate would be acceptable after the review. The work of a particular industry residue specialist was highly commendable in generating residue data.

Commencing in 2010, the DPI&F developed lists for industries of the market access options that were expected to be available to them after the review and highlighted industries that did not have solutions. The Department continued to do much of the efficacy work on fruit fly control in Australia on behalf on industries. Regular communications occurred with industries about options, or lack thereof, and about possible routes for research and develop activities.

A small number of industries held firm to the view that the APVMA would not remove the uses of these chemicals simply on the basis that they could not manage their fruit flies without those chemicals and placed their hopes on political intervention. The small number of industries did not appear to appreciate that the APVMA must make their decision in accordance with the risk principles in the Agvet Code and that there is no legislative ability for the Australian Government Agriculture Minister to direct the APVMA to make a decision outside of those principles.

As demonstrated by the chemical reviews of dimethoate and fenthion, there can be economic effects on growers from chemical review decision under the Agvet Code. When the Agvet Code was developed, it was intentional that economic impacts on growers were excluded from the consideration of the APVMA. The reason was that it was considered appropriate that the risks should be considered independently of economics. It was perceived a situation could arise where the risks to human health, trade or the environment might be compromised because of an economic consideration.

The principles of the APVMA remain valid, including keeping residues as low as reasonable achievable and allowing the use of risk assessment methodology that appropriately protects consumers with appropriate margins of safety but is not unreasonably restrictive in making assumptions that are too conservative.

In the 1980s, there were a number of major international trade disputes because of disagreements about risk assessment practices. One of the great successes of the Joint FAO/WHO Meeting on Pesticide Residues (JMPR) that undertakes the technical considerations for the setting of Codex MRLs, is the development of dietary risk assessment methodology that is accepted and used by most national governments. This has facilitated trade of Australian produce internationally. The APVMA uses the methodology for dietary risk assessments as developed for Codex and should be considered international best practice.

Pesticide residues have a long history of being used as a technical barrier to international trade. To facilitate trade of Australian commodities, the regulatory systems of the Australian and State governments are audited by our trading partners. It is therefore important that regulatory decisions on agricultural and veterinary chemicals such as dimethoate and fenthion are conducted solely on a scientific basis because of the potential to prejudice trade.

Products containing fenthion are not approved for use in most of the Australia's major trading partners and therefore no MRLs are set by those countries. Internationally, Codex has just a few remaining MRLs but they note that the MRLs were set based on European registered uses. Those uses have now been cancelled, therefore it is anticipated that those MRLs would be cancelled at the next periodic review. The continuation of the use of fenthion has the potential to prejudice the international trade of Australian horticultural products.

Pace of Reforms

The APVMA changed a large number of the approved uses of fenthion on 31 October 2012 with the APVMA MRLs being changed on 20 November 2012 as a consequence of the review. The Food Standards Code (FSC) MRLs for fenthion were then changed on the 9 January 2014.

In the case of changes to dimethoate, the APVMA's MRLs were changed on 8 November 2011 while the FSC MRLs weren't changed until 18 January 2013.

The slow promulgation from the APVMA MRL standard to the FSC impacts on the consistent national approach to control of use because jurisdictions are not uniform in the MRL standard to which they refer.

In 2006, Council of Australian Governments (COAG) identified chemicals and plastics as a regulatory hotspot and agreed to the establishment of a Ministerial Taskforce to address it. One of the early harvest reforms of that review was related to the dual system of setting MRLs which operated in Australia was the 'recognition by Food Standards Australia New Zealand of the Australian Pesticides and Veterinary Medicines Authority's residue risk assessment and the promulgation of the resulting maximum residue limits to the Food Standards Code.

It was reported to COAG that the reform had been completed at the December 2008 meeting. The reform was intended to reduce the maximum time from setting an APVMA to its promulgation in the Food Standards Code to four months.

Transition arrangements provided by the Queensland Government

Both fenthion and dimethoate were widely used for field control of fruit fly and other pests in a range of crops, and as quarantine treatments to allow host commodities access to fruit fly restricted markets.

An economic analysis by the then Department of Employment, Economic Development and Innovation (DEEDI) in 2009 identified Queensland fresh produce worth at least \$360 million could be impacted by changes to the approved uses of dimethoate and fenthion.

Horticultural crops that used fenthion for market access include mango, avocado, stonefruit, tomato, persimmon and eggplant.

The APVMA's review of fenthion started in 1997 and includes residues, trade, toxicology, Occupational Health and Safety (OH&S), and environment. The toxicology assessment was published December 2005. The OH&S, residues and environmental assessments are underway. Human health concerns include dietary and occupational exposure and environment concerns include birds and aquatic life.

In September 2012, the APVMA completed its residue and dietary exposure assessment of fenthion resulting in the suspension of a significant number of approved uses of this chemical. Adverse findings of the review of fenthion, specifically the risks to human health from the use of fenthion, resulted in the suspension of many uses of fenthion, including its use for fruit fly control as preharvest (field) control and as postharvest disinfestation treatments.

Dimethoate use in many crops has been restricted since October 2011 as a result of the APVMA's review.

These changes to the approved uses of dimethoate and fenthion have impacted horticultural industries in Queensland, a state with endemic populations of economically damaging fruit flies, and across Australia. Other jurisdictions such as New South Wales, the Northern Territory, Western Australia and parts of Victoria also have endemic fruit fly populations that require treatment for market access and in-field control.

The loss of the postharvest use of dimethoate resulted in the loss of market access into New Zealand for tomato and capsicum with estimated annual value of approximately \$6 million. This market was reopened late last season when the use of irradiation was approved for both commodities. Exporters may struggle to regain this market as their local glasshouse producers have stepped in to supply the demand.

In 2010, the Queensland Government through DEEDI responded to these APVMA reviews by establishing a dedicated team of three staff in a project to ensure that Queensland's horticultural industry would have alternative treatments so they retained access to interstate and international markets with quarantine restrictions for fruit fly.

The Department of Agriculture, Fisheries and Forestry Queensland (DAFF Queensland) invested around \$1 million annually over recent years in joint research projects with industry organisations to develop viable, alternative management technologies for fruit fly, and to refine existing treatments to help industry prepare for the outcomes of these APVMA reviews.

DAFF Queensland worked closely with industry and interstate plant quarantine authorities to help maintain market access and to identify alternative chemicals or options for the control of Queensland fruit fly. There was regular contact with industries and interstate stakeholders and regulators through its representation and negotiation at the national forum for domestic trade in plants and plant products, the then Domestic Quarantine and Market Access Working Group (now Subcommittee on Domestic Quarantine and Market Access) and attendances at industry forums.

DAFF Queensland also represented Queensland's issues at the National Dimethoate and Fenthion Response Coordination Committee, the government and industry forum hosted by Australia's Chief Plant Protection Officer in the Australian Government's then Department of Agriculture, Fisheries and Forestry (now the Department of Agriculture).

DAFF Queensland invested heavily in, and provided extensive industry support, for an alternative to postharvest chemical treatment with dimethoate or fenthion. This is the use of 'systems approaches' which incorporate two or more measures, such as crop hygiene, host status and field treatments, to provide an acceptable level of protection for market access purposes.

Market access protocols using these systems approaches (most have been reliant on pre-harvest chemical controls plus postharvest inspection) were developed and negotiated for crops such as citrus, mango, table grape, strawberry, tomato and capsicum as an alternative to postharvest dimethoate and fenthion treatments.

After successfully negotiating interstate acceptance of new market access protocols, the project team also supported implementation of these new arrangements, providing awareness material to businesses as well as organising district workshops for industry groups. Where new market access protocols required more substantial changes by businesses, eg strawberry systems approach protocol, specific training was provided to industry prior to implementation of the new systems.

The work by the Queensland Government response team succeeded in minimising the impacts to industry following the restrictions on uses of both dimethoate and fenthion.

However, the adoption of these protocols was not always well received by some growers due to additional paperwork and disruption to their integrated pest management programs. Consequently, many growers did revert to fenthion postharvest treatments as a short term solution where postharvest dimethoate use has been lost.

From 1 July 2013 Victoria removed quarantine restrictions for Queensland fruit fly for all parts of Victoria other than the Sunraysia pest free area. This was the most significant change in domestic marketing of fresh produce in many years and of tremendous benefit to Queensland and interstate businesses located in production areas with endemic populations of fruit fly. The change meant that fruit fly host produce could be sent to most of Victoria without the need for treatment and certification for freedom from fruit fly.

In advance of Victoria's change to entry conditions, DAFF Queensland developed and successfully negotiated a new market access protocol that did not rely on chemical disinfestation treatments but was based on inspection for freedom from fruit fly for access to Victoria. This interim arrangement commenced in November 2012 and was also accepted for entry of host produce to the Fruit Fly Exclusion Zone in New South Wales.

The Department's work was very successful, with disruption to market access only occurring for stonefruit. Specifically, one Queensland business lost access last year to interstate markets with restrictions for fruit fly, and that business has continued supplying unrestricted markets. Recent work with New South Wales has succeeded in regaining access to restricted markets interstate and this new treatment option will be available to Queensland's stonefruit industry for its next harvest season.

DAFF Queensland, with co-investment from industry, has ongoing research projects looking at alternative treatments such as host status testing, cold treatments, microwaves, low dose methyl bromide fumigation and irradiation. Another option that has been used very successfully in limited areas of Queensland is Area Wide Management. DAFF Queensland strongly supports this approach but realises that it is not appropriate for all production areas, especially those areas with high endemic fruit fly numbers or areas with large peri-urban populations.

DAFF Queensland has observed some instances where the alternative chemical treatments being relied upon for fruit fly control in the field are not as effective as the dimethoate and fenthion products. However, it is recognised that continued use of fenthion and dimethoate for horticultural produce poses an unacceptable dietary risk to humans. In addition, further national consideration about increased detections of fruit fly in fresh produce certified as meeting plant quarantine entry conditions is required.

DAFF Queensland continues to work with impacted industries to ensure the newer, more sophisticated systems approach protocols are being implemented properly by businesses wanting access to these restricted markets. These protocols are effective in minimising the likelihood of live fruit fly being present in the fruit.

As an example, DAFF Queensland succeeded in gaining interstate acceptance of a modified systems approach protocol for Queensland fruit fly so it more closely match the production systems for tomato and capsicum grower in the Bowen-Gumlu district. DAFF Queensland is working with industry to develop a submission for the Australian Government to consider, aimed of gaining recognition of this new system for resumption of exports of these commodities to New Zealand.

DAFF Queensland continues to take a proactive approach in partnership with industry to support industry growth through maintaining and expanding domestic and international market access.

Submission prepared by
Biosecurity Queensland, Department of Agriculture, Fisheries and Forestry,
Queensland Government
17 January 2014